

BEFORE THE BOARD OF ENVIRONMENTAL REVIEW
OF THE STATE OF MONTANA

In the matter of the adoption)	AMENDED NOTICE OF PUBLIC
of New Rules I through IV,)	HEARING ON PROPOSED
pertaining to standards for)	ADOPTION AND AMENDMENT
electrical conductivity and)	
sodium adsorption ratio and)	
classifications for)	(WATER QUALITY)
constructed coal bed methane)	
water holding ponds, and the)	
amendment of ARM 17.30.602,)	
17.30.706 and 17.30.715)	
pertaining to definitions for)	
water quality standards,)	
informational requirements for)	
nondegradation significance/)	
authorization review and)	
nonsignificance criteria)	

TO: All Concerned Persons

1. On August 29, 2002, the Board of Environmental Review published notices of public hearing at pages 2262, 2269 and 2280, 2002 Montana Administrative Register, Issue Number 16, under MAR Notice No. 17-170, MAR Notice No. 17-171 and MAR Notice No. 17-172, to consider the proposed adoption of New Rules I through III and the amendment of ARM 17.30.602 and 17.30.715. The Board held those hearings and is publishing this amended notice to address comments that were received at those hearings and to institute a further comment period on the department's recommended proposal set forth in MAR Notice No. 17-171. The Board is amending MAR Notice No. 17-171 to include provisions that specify flow-based procedures for implementing the numeric standards in New Rule IV and to include provisions requiring persons planning to discharge coal bed methane water to apply to the department for a significance determination. Except for New Rule I in MAR Notice No. 17-171, all rules in that notice remain part of this rulemaking proceeding.

2. On January 31, 2003, at 11:00 a.m., the Board of Environmental Review will hold a public hearing in Room 111, Metcalf Building, 1520 East Sixth Avenue, Helena, Montana, to consider the proposed adoption of New Rule IV Numeric Standards for Electrical Conductivity (EC) and Sodium Adsorption Ratio (SAR), and the amendment of ARM 17.30.706

Informational Requirements for Nondegradation Significance/Authorization Review, and to consider any other comments pertaining to MAR Notice No. 17-171.

3. The Board will make reasonable accommodations for persons with disabilities who wish to participate in these public hearings or need an alternative accessible format of this notice. If you require an accommodation, contact the Board no later than 5:00 p.m., January 21, 2003, to advise us of the nature of the accommodation that you need. Please contact the Board Secretary at P.O. Box 200901, Helena, Montana 59620-0901; phone (406) 444-2544; fax (406) 444-4386 or email ber@state.mt.us.

4. The Board is proposing two Alternatives for New Rule IV. Both of the alternatives include a provision that specifies flow-based procedures for implementing the numeric standards. The second alternative also includes a non-severability provision that specifies that the nondegradation requirements for EC and SAR and the flow-based procedures for implementing those requirements are non-severable from the numeric standards. In order to ensure that the nondegradation provisions are non-severable from the numeric standards and flow-based procedures, Alternative II also includes the Board's proposed nonsignificance criteria for EC and SAR, as published in the amendment of ARM 17.30.715 in MAR Notice No. 17-171.

ALTERNATIVE I

RULE IV NUMERIC STANDARDS FOR ELECTRICAL CONDUCTIVITY (EC) AND SODIUM ADSORPTION RATIO (SAR) (1) No person may violate the numeric water quality standards identified in (2) through (5). Compliance with the standards contained in (2) through (5) will be determined according to the procedures specified in (6).

(2) Except as provided in [New Rule III], the numeric standards for electrical conductivity (EC) and sodium adsorption ratio (SAR) for the mainstems of Rosebud Creek, the Tongue, Powder, and Little Powder rivers from November 1 through March 1 are as follows:

(a) for Rosebud Creek and the Tongue River, the numeric water quality standard for EC is 2000 $\mu\text{S}/\text{cm}$ [or an alternative value in the range of 1000 through 2000 $\mu\text{S}/\text{cm}$] and the numeric water quality standard for SAR is 5.0 [or an alternative value in the range of 3.0 through 5.0]; and

(b) for the Powder River and the Little Powder River, the numeric water quality standard for EC is 2500 $\mu\text{S}/\text{cm}$ and the numeric water quality standard for SAR is 7.5 [or an alternative value in the range of 6.0 through 7.5].

(3) Except as provided in [New Rule III], the numeric standards for EC and SAR for the mainstems of Rosebud Creek, the Tongue, Powder, and Little Powder rivers from March 2 through October 31 are as follows:

(a) for Rosebud Creek and the Tongue River, the numeric water quality standard for EC is 1000 $\mu\text{S}/\text{cm}$ [or an alternative value in the range of 1000 through 1500 $\mu\text{S}/\text{cm}$] and the numeric water quality standard for SAR is 3.5 (or an alternative value in the range of 3.0 through 5.0); and

(b) for the Powder River and Little Powder River, the numeric water quality standard for EC is 2000 $\mu\text{S}/\text{cm}$ [or an alternative value in the range of 1600 through 2000 $\mu\text{S}/\text{cm}$] and the numeric water quality standard for SAR is 5.0 [or an alternative value in the range of 4.0 through 6.0].

(4) Except as provided in [New Rule III], for all tributaries and other surface waters in the Rosebud Creek, Tongue, Powder, and Little Powder river watersheds, the numeric water quality standard for EC is 500 $\mu\text{S}/\text{cm}$ [or an alternative value in the range of 500 through 2500 $\mu\text{S}/\text{cm}$] and the numeric water quality standard for SAR is 5.0 [or an alternative value in the range of 3.0 through 7.5].

(5) All of the standards listed in (2) through (4) apply as an average value for each month [or as an instantaneous value].

(6) For purposes of determining compliance with the water quality standards and nonsignificance criteria for all parameters of concern in any new or increased discharge of unaltered ground water from coal bed methane development, the department shall determine effluent or compliance limits (e.g., evaluate the design of disposal systems) by using a flow-based analysis that considers a range of flows or monthly flow probability. With respect to EC and SAR, the department shall also use the median chemistry for the specified flow range or monthly flow.

AUTH: 75-5-301, 75-5-303, MCA

IMP: 75-5-301, 75-5-303, MCA

ALTERNATIVE II

RULE IV NUMERIC STANDARDS FOR ELECTRICAL CONDUCTIVITY (EC) AND SODIUM ADSORPTION RATIO (SAR) (1) No person may violate the numeric water quality standards or the criteria

for determining nonsignificant changes in water quality identified in (2) through (6). Compliance with the standards and criteria contained in (2) through (6) will be determined according to the procedures specified in (7).

(2) Except as provided in [New Rule III], the numeric standards for electrical conductivity (EC) and sodium adsorption ratio (SAR) for the mainstems of Rosebud Creek, the Tongue, Powder, and Little Powder rivers from November 1 through March 1 are as follows:

(a) for Rosebud Creek and the Tongue River, the numeric water quality standard for EC is 2000 $\mu\text{S}/\text{cm}$ [or an alternative value in the range of 1000 through 2000 $\mu\text{S}/\text{cm}$] and the numeric water quality standard for SAR is 5.0 [or an alternative value in the range of 3.0 through 5.0]; and

(b) for the Powder River and the Little Powder River, the numeric water quality standard for EC is 2500 $\mu\text{S}/\text{cm}$ and the numeric water quality standard for SAR is 7.5 [or an alternative value in the range of 6.0 through 7.5].

(3) Except as provided in [New Rule III], the numeric standards for EC and SAR for the mainstems of Rosebud Creek, the Tongue, Powder, and Little Powder rivers from March 2 through October 31 are as follows:

(a) for Rosebud Creek and the Tongue River, the numeric water quality standard for EC is 1000 $\mu\text{S}/\text{cm}$ [or an alternative value in the range of 1000 through 1500 $\mu\text{S}/\text{cm}$] and the numeric water quality standard for SAR is 3.5 [or an alternative value in the range of 3.0 through 5.0]; and

(b) for the Powder River and Little Powder River, the numeric water quality standard for EC is 2000 $\mu\text{S}/\text{cm}$ [or an alternative value in the range of 1600 through 2000 $\mu\text{S}/\text{cm}$] and the numeric water quality standard for SAR is 5.0 [or an alternative value in the range of 4.0 through 6.0].

(4) Except as provided in [New Rule III], for all tributaries and other surface waters in the Rosebud Creek, Tongue, Powder, and Little Powder river watersheds, the numeric water quality standard for EC is 500 $\mu\text{S}/\text{cm}$ [or an alternative value in the range of 500 through 2500 $\mu\text{S}/\text{cm}$] and the numeric water quality standard for SAR is 5.0 [or an alternative value in the range of 3.0 through 7.5].

(5) All of the standards listed in (2) through (4) apply as an average value for each month [or as an instantaneous value].

(6) Changes in existing surface or ground water quality with respect to EC and SAR are nonsignificant according to the criteria in 75-5-301(5)(c), MCA, provided that the change will not have a measurable effect on any existing or anticipated

use or cause measurable changes in aquatic life or ecological integrity.

(7) For purposes of determining compliance with the water quality standards and nonsignificance criteria for all parameters of concern in any new or increased discharge of unaltered ground water from coal bed methane development, the department shall determine effluent or compliance limits (e.g., evaluate the design of disposal systems) by using a flow-based analysis that considers a range of flows or monthly flow probability. With respect to EC and SAR, the department shall also use the median chemistry for the specified flow range or monthly flow.

(8) If any of the provisions of (6) or (7), or both of them, are declared to be invalid, then the numeric water quality standards and requirements specified in (1) through (7) shall be void.

AUTH: 75-5-301, 75-5-303, MCA

IMP: 75-5-301, 75-5-303, MCA

REASON: In this amended notice, the Board is proposing New Rule IV as a substitute for New Rule I published in MAR Notice No. 17-171. The numeric standards for EC and SAR proposed in New Rule IV include the standards recommended by the department, as refined by public comment, and also include a range of standards that have been promoted by other interested persons who participated in a collaborative effort to reach agreement on the proposed standards. The Board is seeking comment on whether or not to adopt the numeric standards recommended by the department or, alternatively, whether to adopt a different numeric standard that is within the range of standards set forth in brackets in (2) through (4) in New Rule IV.

The department's recommended standards in New Rule IV have been modified from those originally recommended by the department in MAR Notice No. 17-171 as follows:

1. The water quality standards for EC and SAR that apply during the irrigation season now apply during the month of March as well, because irrigation often occurs in March, especially in the tributaries.

2. The EC standard for the Powder River during the irrigation season has been raised from 1900 to 2000 $\mu\text{S}/\text{cm}$. For the non-irrigation season, the EC standard has been raised from 2000 to 2500 $\mu\text{S}/\text{cm}$ and the SAR standard has been raised from 5.0 to 7.5. These increases in the standards more nearly reflect natural conditions and do not increase the impacts to irrigated agriculture.

3. The use of a formula to derive a standard for SAR has been omitted because the formula had limited value due to its inapplicability to many of the streams included in the rule proposal. Instead, the department is recommending a specific SAR value for each of the streams specified in New Rule IV.

Rationale for the Numeric Standards Recommended by the Department in New Rule IV

The EC standard of 1000 $\mu\text{S}/\text{cm}$ for the Tongue River and Rosebud Creek during the irrigation season is established at a level that will prevent reductions in the yield of field beans. Field beans are the most sensitive crops grown in these watersheds. The value of 1000 $\mu\text{S}/\text{cm}$ takes into account the rainfall in the basin and the current leaching fraction of 15 percent.

The EC standard of 2000 $\mu\text{S}/\text{cm}$ for the Powder and Little Powder Rivers during the irrigation season is established at a level that will prevent reductions in the yield of field corn and alfalfa. These are the most sensitive crops grown in these watersheds. The value of 2000 $\mu\text{S}/\text{cm}$ takes into account the rainfall in the basin and the current leaching fraction of 30 percent.

The EC standard of 2000 $\mu\text{S}/\text{cm}$ for Tongue River and Rosebud Creek during the non-irrigation season is established at a level that will minimize the potential for damage to riparian vegetation and to aquatic life.

The EC standard of 2500 $\mu\text{S}/\text{cm}$ for the Powder and Little Powder Rivers during the non-irrigation season is established at a level that will minimize the potential for damage to riparian vegetation and to aquatic life. This standard is higher than the non-irrigation season standard for the Tongue River and Rosebud Creek, because the ambient levels in the Powder and Little Powder Rivers are usually at or above 2000 $\mu\text{S}/\text{cm}$.

The SAR standard of 3.5 for the Tongue River and Rosebud Creek for the irrigation season is established at a level that will prevent reductions in infiltration. This is the highest value of SAR that will not result in a reduction in infiltration when the EC of the irrigation water is 1000 $\mu\text{S}/\text{cm}$ and the soils have equilibrated to irrigation water with an EC of 1000 $\mu\text{S}/\text{cm}$ and an SAR of 3.5.

The SAR standard of 5.0 for the Powder and Little Powder Rivers for the irrigation season is established at a level that will minimize the potential for reductions in infiltration due to rainfall effects when the soils have

equilibrated to irrigation water with an EC of 2000 $\mu\text{S}/\text{cm}$ and an SAR of 5.0.

The SAR standard of 5.0 for the Tongue River and Rosebud Creek during the non-irrigation season is established at a level that will minimize the potential for damage to riparian soils.

The SAR standard of 7.5 for the Powder and Little Powder Rivers during the non-irrigation season is established at a level that will minimize the potential for damage to riparian soils.

The EC standard of 500 $\mu\text{S}/\text{cm}$ for the tributaries is established at a level that will prevent reductions in the yield of alfalfa when the water-spreading method of irrigation is used.

The SAR standard of 5.0 for the tributaries is established at a level that will minimize the potential for reductions in infiltration due to rainfall effects when the water-spreading method of irrigation is used.

Reason for the Flow-Based Procedures

The Board is proposing a provision that requires the department to use a flow-based analysis when evaluating compliance with the water quality standards and nonsignificance criteria for all parameters of concern in any new or increased discharge from coal bed methane development. [See New Rule IV section (6) in Alternative I and section (7) in Alternative II.] The Board is proposing the use of a flow-based analysis because a flow-based approach will allow increased discharges during periods of high flow, while still protecting uses. If the Board does not adopt this provision, the department typically evaluates and restricts discharges based upon the lowest flow that occurs for 7 consecutive days every 10 years (7Q10). The Board does not believe that restricting discharges of water from coal bed methane development to the most restrictive year-round limit imposed by the 7Q10 is appropriate since this restriction may preclude discharges that could occur during high flow without harming uses. Since the primary objective of the Board is to prevent harm to designated uses, the Board is proposing to adopt a flow-based analysis that will protect uses while allowing increased discharges from coal bed methane.

Reason for a Non-Severability Clause [Alternative II]

The Board is including a non-severability clause in New Rule IV [Alternative II], to require that the adoption of numeric criteria, nondegradation criteria, and a flow-based analysis for discharges of coal bed methane water not be effective unless all components of the rule remain in place. Under Alternative II, the Board would not amend ARM 17.30.715(1)(g) to address nonsignificance criteria for EC and SAR as originally proposed in MAR Notice No. 17-171, but would adopt the nonsignificance criteria for EC and SAR in New Rule IV(6) [Alternative II].

Under (8) of New Rule IV [Alternative II], the Board is proposing that, if the nondegradation criteria in (6) [Alternative II] or the flow-based analysis in (7) [Alternative II] are later declared invalid, then the entire provisions of New Rule IV [Alternative II] shall be void. Since the primary objective of the Board is to establish numeric standards for EC and SAR that protect existing and designated uses without unduly restricting coal bed methane development, the Board is concerned that a court's decision to invalidate, for example, the nondegradation criteria would result in numeric nondegradation thresholds that are not necessary for the protection of designated uses and that unnecessarily restrict coal bed methane development. Rather than have that result, the Board is proposing to void the entire Rule IV [Alternative II].

5. The rule proposed to be amended provides as follows, deleted matter interlined, new matter underlined:

17.30.706 INFORMATIONAL REQUIREMENTS FOR NONDEGRADATION SIGNIFICANCE/AUTHORIZATION REVIEW (1) Any person proposing an activity ~~which~~ that may cause degradation is responsible for compliance with 75-5-303, MCA. Except as provided in (2) and (3) ~~of this rule~~, a person may either:

(a) remains the same.

(b) submit an application to the department pursuant to ~~(3)~~ (4) ~~of this rule~~, for the department to make the determination.

(2) remains the same.

(3) Any person proposing to discharge unaltered ground water into surface or ground water for purposes of developing coal bed methane must complete a department "Application for Determination of Significance", as described in (4). The department shall review the application and determine whether the discharge is nonsignificant according to criteria established by the board. If the department determines that the discharge is nonsignificant, the department shall issue a

"Determination of Nonsignificance", which must include any conditions or limitations on the discharge that are reasonably necessary to ensure compliance with its determination. No person may violate the conditions or limitations included in the department's "Determination of Nonsignificance" and any violation of those conditions or limitations constitutes degradation in violation of 75-5-605(1)(d), MCA.

~~(3)~~ (4) Any person proposing an activity or class of activities ~~which~~ that may cause degradation and is not an activity included under (2) or (3) ~~of this rule~~ may complete a department "Application for Determination of Significance". Information required on the application includes, but is not limited to, the following:

(a) through (e) remain the same.

~~(4)~~ (5) The department will review ~~the~~ an "Application for Determination of Significance" and make a determination whether the proposed change in water quality is nonsignificant according to ARM 17.30.715 or 17.30.716 within 60 days of receipt of the completed application.

(5) through (13) remain the same, but are renumbered (6) through (14).

AUTH: 75-5-301, 75-5-303, MCA

IMP: 75-5-303, MCA

REASON: The Board is proposing the amendment of ARM 17.30.706 in response to a ruling by U.S. District Judge Sam E. Haddon on August 23, 2002. (Northern Plains Resource Council v. Redstone Gas Partners, CV 00-105-BLG-SEH). In that case, the court found that unaltered ground water discharged as a result of coal bed methane development is not a "pollutant" as that term is defined under the federal Clean Water Act (CWA). Since the court found that unaltered ground water is not a pollutant, the court went on to hold that discharges from coal bed methane development do not require an NPDES permit under the CWA. The court further explained that its holding applied with equal force to Montana's federally delegated MPDES permit program. This ruling is currently being appealed.

Since the district court ruling eliminates the department's authority to require an MPDES permit for coal bed methane water, the Board is proposing the amendment of ARM 17.30.706 as an alternative method of ensuring compliance with state water quality standards and nondegradation requirements. The amendments being proposed would require persons proposing to discharge water resulting from coal bed methane development to apply to the department for its determination of whether or

not the proposed discharge is nonsignificant according to the criteria adopted by the Board. The amendment also clarifies the department's authority to impose limits or conditions on discharges of coal bed methane to ensure that all water quality standards, including the nondegradation requirements, are met. If the Board does not adopt the amendments to ARM 17.30.706, the department would have no authority to review and impose conditions on proposed discharges of coal bed methane water to ensure compliance with state water quality requirements.

6. Concerned persons may submit their data, views or arguments, either orally or in writing, at the hearing. Written data, views or arguments may also be submitted to the Board of Environmental Review, P.O. Box 200901, Helena, Montana 59620-0901, faxed to (406) 444-4386 or emailed to the Board Secretary at ber@state.mt.us and must be received no later than 5:00 p.m., February 7, 2003. To be guaranteed consideration, mailed comments must be postmarked on or before that date.

7. The Board maintains a list of interested persons who wish to receive notices of rulemaking actions proposed by this agency. Persons who wish to have their name added to the list shall make a written request that includes the name and mailing address of the person to receive notices and specifies that the person wishes to receive notices regarding: air quality; hazardous waste/waste oil; asbestos control; water/wastewater treatment plant operator certification; solid waste; junk vehicles; infectious waste; public water supplies; public sewage systems regulation; hard rock (metal) mine reclamation; major facility siting; opencut mine reclamation; strip mine reclamation; subdivisions; renewable energy grants/loans; wastewater treatment or safe drinking water revolving grants and loans; water quality; CECRA; underground/above ground storage tanks; MEPA; or general procedural rules other than MEPA. Such written request may be mailed or delivered to the Board of Environmental Review, 1520 E. Sixth Ave., P.O. Box 200901, Helena, Montana 59620-0901, faxed to the office at (406) 444-4386, emailed to the Board Secretary at ber@state.mt.us or may be made by completing a request form at any rules hearing held by the Board.

8. The bill sponsor notice requirements of 2-4-302, MCA, do not apply.

BOARD OF ENVIRONMENTAL REVIEW

By: Joseph W. Russell
JOSEPH W. RUSSELL, M.P.H.
Chairman

Reviewed by:

John F. North
John F. North, Rule Reviewer

Certified to the Secretary of State, December 16, 2002.